

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



549445

(43) International Publication Date
30 September 2004 (30.09.2004)

PCT

(10) International Publication Number
WO 2004/083258 A2

- (51) International Patent Classification⁷: **C08F**
- (21) International Application Number:
PCT/US2004/007931
- (22) International Filing Date: 15 March 2004 (15.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/454,993 14 March 2003 (14.03.2003) US
60/474,094 29 May 2003 (29.05.2003) US
60/509,752 7 October 2003 (07.10.2003) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:**
— of inventorship (Rule 4.17(iv)) for US only
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **BRANCHED WATER-SOLUBLE POLYMERS AND THEIR CONJUGATES**

(57) Abstract: The present invention provides branched water-soluble polymers that allow two or more water-soluble polymers to be conjugated to another species. The branched polymers provide access to therapeutic agents that are conjugated at a single site to two or more water-soluble polymers. The branched polymers are based upon branch points that are simple branched alkyl structures, reactive side-chain amino acids and small peptides of reactive side-chain amino acids, and saccharides. Also provided is a method for preparing mono-disperse poly(ethylene glycol) of a well-defined and determinable molecular weight, and a method for the rational end-functionalization of poly(ethylene glycol). Conjugates of the branched water-soluble polymers with diverse species, e.g., peptides, lipids, glycolipids and small molecules are also provided.

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